REMARKS

Applicants thank the Examiner for the Office Action of June 30, 2010. This Amendment is in full response thereto. Thus, Applicants respectfully request continued examination and allowance of the application.

Claims 20-22, 24-28 and 30-34 are pending in this application. Claims 33 and 34 are new.

First Claim Rejection Under 35 U.S.C. § 103:

Claims 21, 22, 24-27 and 30-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stratton, et al. (WO 02/44430, the corresponding US patent is USPN 7,147,732) in view of Wandke (EP 0869189 – machine translation).

The Examiner's rejection fails to make out a *prima facie* case of obviousness. The rejection should therefore be withdrawn. The Examiner's provides a rationale for modifying Stratton, et al. by Wandke. The rationale is the substitution of an art recognized equivalent for the same purpose. MPEP 2144.06. Applicant concurs that the cooling gas mixtures of the two references carry out the same general function, cooling heat treated metals. However, it is not obvious to modify Stratton by switching to the cooling gas described by Wandke. This is because the cooling gas described in Wandke is not an equivalent of the cooling gas in Stratton. Wandke discloses a cooling gas mixture designed for use at elevated pressures > 40 bar:

> For the desire far increased cooling speeds according to invention by the fact it is solved that a cooling gas pressure p in the furnace or the deterrence chamber is planned of more than 4 MPa (40 bar). Preferably a cooling gas pressure p in the furnace or the deterrence chamber is stopped of more than 4 MPa and up to 5,5 MPa.

The gas mixture of Wandke is thus selected based on its intended use at higher than normal pressures. This elevated pressure condition is the distinguishing feature of the solution provided by Wandke. *Cf.*, Specification as filed, page 1, lines 12-16 (4-20 bar at most). Stratton in contrast contemplates a gas cooling mixture intended for

use under normal operation circumstances "preferably at 0-1 bar gauge." The gas mixture required for this pressure range is quite different than that of Wandke:

> The stream of hot gas is preferably compressed to a pressure up to 10 bar gauge, the maximum pressure not being so great that the dew point of the gas is less than 15° C., thus ensures that water does not precipitate out of the gas stream.

Stratton, Col. 2, lines 28-32. Stratton thus expressly teaches away from highly pressurizing the cooling gas while Wandke requires the gas be at a pressure of 40 bar or more. Because the cooling gas mixtures of Stratton and Wandke are designed for different operating conditions, replacing the gas mixture of Stratton with that of Wandke is not a substitution with an art recognized equivalent.

Applicant further submits that the proposed modification of Stratton by use of the cooling gas of Wandke constitutes a hindsight reconstruction that changes the principle of operation of Stratton and would render Stratton unsuitable for its intended purpose. MPEP 2143.01 (V.-VI.). The design and method of operation of Stratton is that the "source of the hot gas is a heat treatment chamber from which the hot metal object is taken for quenching or a gas generator which supplies hot gas to the heat treatment chamber….By employing the heat treatment chamber or gas generator as the source of the quenching gas, the need for a separate supply of hydrogen to the quenching step is obviated." The point of Stratton is to use the same atmosphere for both heat treatment and quenching. Modifying Stratton to use a separate cooling gas mix per Wandke would therefore a) radically alter the principle of operation of Stratton from using the same gas mixture for heat treatment and cooling and b) render Stratton unsuitable for its intended purpose of obviating the need for a separate supply of hydrogen.

While applicant considers the above sufficient, claims 30 and 31 are amended in an effort to advance prosecution. The amendment requires the quench occur at a 4-20

bar pressure. This will additionally distinguish Wandke and any Wandke/Stratton combination.

Second Claim Rejection Under 35 U.S.C. § 103:

Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Stratton, et al. (WO 02/44430, the corresponding US patent is USPN 7,147,732) in view of Wandke (EP 0869189 – machine translation) and Nakamura (JP 63149313).

This rejection is expressly predicated on the above combination of Stratton and Wandke. This rejection should therefore be withdrawn at least for the same reasons stated above.

Third Claim Rejection Under 35 U.S.C. § 103:

Claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Stratton, et al. (WO 02/44430, the corresponding US patent is USPN 7,147,732) in view of Wandke (EP 0869189 – machine translation) and Andersson (USPN 5,938,866).

This rejection is expressly predicated on the above combination of Stratton and Wandke. This rejection should therefore be withdrawn at least for the same reasons stated above.

CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the examiner believe a telephone call would expedite the prosecution of the application, he/she is invited to call the undersigned attorney at the number listed below.

It is not believed that any fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

Date: **September 28, 2010**

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